

***Examiner's Amendment/Reasons for Allowance***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

***In the Claims***

2. Claim 21, line 23: delete "state machine." and insert --state machine, wherein at least one neural circuit thereof comprises a plurality of neural network connections and at least one perceptron adjusting at least one synaptic weight to produce a predetermined output.--.

Cancel claims 23 and 24.

Claim 25, line 1: delete "claim 24" and insert --claim 21--.

Claim 25, line 1: delete "wherein said" and insert --wherein said at least one--.

Claim 25, line 2: delete "between at least one" and insert --between said at least one--.

Claim 33, lines 2 and 3: delete "to make random" and insert --to accept random--.

Claim 39, lines 1 and 2: delete "said perceptron" and insert --at least one perceptron among said plurality of perceptrons--.

Authorization for this examiner's amendment was given by fax dated March 7, 2008 from attorney of record, Kermit D. Lopez.

***Reasons for Allowance***

3. Claims 21, 22, 25-41 are considered allowable since when reading the claims in light of the specification (MPEP § 211.01), none of the references of record alone or in combination disclose or suggest the combination of limitations specified in independent claims 21 and 38 including “liquid state machine” (supported at e. g., ¶0328), “liquid dielectric solution” (supported at e. g., ¶0328), “dipole” (supported at e. g., ¶0103), and perceptron (supported at e. g., ¶0103) wherein a liquid state machine comprises a neural circuit embodying neural network connections (nanoconductors) and at least one perceptron adjusting at least one synaptic weight to produce a predetermined output. Inter alia, independent claim 40 limits to a gate comprising a source and drain and a liquid state machine storing patterns of neural activations of the physical neural network representing past history of the liquid state machine.

The closest prior art (Jackson et al., USPN 6,536,106) teaches an electric field assisted assembly process using nano-scale devices suspended in a dielectric medium deposited onto a substrate patterned with electrodes. Jackson does not teach assembly of a neural circuit embodying neural network connections (nanoconductors) and at least one perceptron adjusting at least one synaptic weight to produce a predetermined output. Jackson also does not teach a gate comprising a source and drain and a liquid state machine storing patterns of neural activations of the physical neural network representing past history of the liquid state machine

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4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Correspondence Information***

5. Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 5:30 a.m. to 4:00 p.m.

As detailed in MPEP 502.03, communications via Internet e-mail are at the discretion of the applicant. Without a written authorization by applicant recorded in the applicant's file, the USPTO will not respond via e-mail to any Internet correspondence which contains information subject to the confidentiality requirement as set forth in 35 U.S.C. 122. A paper copy of such correspondence will be placed in the appropriate patent application. The following is an example authorization which may be used by the applicant:

Notwithstanding the lack of security with Internet Communications, I hereby authorize the USPTO to communicate with me concerning any subject matter related to the instant application by e-mail. I understand that a copy of such communications related to formal submissions will be made of record in the applications file.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

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Any response to this office action should be mailed to:

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Hand delivered to:

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401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Joseph P. Hirl/  
Primary Examiner, Art Unit 2129  
March 10, 2008